

What is claimed is:

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1. In a wireless communication system, a method comprising the steps of:
transmitting a power-on signal from a mobile station to a mobile switching center (MSC)
in response to each power activation of the mobile station;
transmitting a power-off signal from the mobile station to the MSC in response to each
5 power deactivation of the mobile station;
updating power status of the mobile station in a home location register (HLR) linked to
the MSC in response to receipt of each of said power-on signal and power-off signal; and
in response to each said step of updating, sending a message indicating a change of
mobile station power status to an Internet Service Provider (ISP).
2. A method as recited in claim 1, wherein the signal comprises information identifying
the mobile station and its power status, and further comprising the steps of:
in response to receipt of the signal by the ISP, correlating the mobile station identified in
the signal with a subscriber of the ISP;
5 determining whether the correlated ISP subscriber is on-line; and
notifying the correlated on-line ISP subscriber of the power status of the mobile station.
3. A method as recited in claim 2, wherein said step of notifying comprises transmitting
data to the on-line ISP subscriber for display when the mobile station has been activated.
4. A method as recited in claim 3, wherein the data comprises an icon that indicates the
mobile station has a power-on status.

5. The method of claim 3, further comprising the step of:

transmitting a message from the on-line ISP subscriber to the mobile station.

6. The method of claim 5, wherein:

said transmitting step comprises sending the message via the ISP to a short message server in the wireless communication system; and

forwarding the message to the mobile station via the MSC.

7. A method as recited in claim 2, wherein said step of notifying comprises transmitting data to the on-line ISP subscriber for deletion of an icon display when the mobile station has been de-activated.

8. A method as recited in claim 1, wherein the signal comprises information identifying the mobile station and its power status, and the step of transmitting comprises forwarding the signal to a plurality of ISPs.

9. In a wireless communication system, a method comprising the steps of:

transmitting a power-on signal from a mobile station to a mobile switching center (MSC) in response to each power activation of the mobile station;

transmitting a power-off signal from the mobile station to the MSC in response to each
5 power deactivation of the mobile station;

updating power status of the mobile station in a home location register (HLR) linked to the MSC in response to receipt of each of said power-on signal and power-off signal;

in response to each said step of updating, determining whether the mobile station is associated with a subscriber of an Internet Service Provider (ISP); and

10 transmitting a change of mobile station power status signal to a remote database associated with the ISP if an association has occurred in the determining step.

10. A method as recited in claim 9, wherein:

the step of determining comprises checking for a flag in the HLR indicating that the mobile station is linked to the Internet Service Provider.

11. A method comprising the steps of:

maintaining power-on and power-off status for each of a plurality of mobile telephone stations in a first database; and

formulating a change of status message for transmission to a second database related to at least one Internet Service Provider (ISP) in response to a change in the status for at least one of the plurality of mobile stations.

12. A method as recited in claim 11, wherein:

the first database comprises a mobile switching system home location register (HLR) that contains subscriber listings for the plurality of mobile stations and the step of maintaining comprises:

5 receiving at a mobile switching center (MSC) power-on and power-off signals that are indicative of changes in a power status for each of the plurality of mobile stations; and updating the HLR in response to the received power-on and power-off signals.

13. A method as recited in claim 12, further comprising the steps of:

receiving at the MSC registration and de-registration signals, indicative of establishing communication and loss of communication, respectively, with mobile communications network base stations for each of the plurality of mobile stations;

5 wherein the HLR is updated further in response to receipt of the registration and de-registration signals; and

formulating a change of registration message for transmission to a second database related to at least one Internet Service Provider (ISP) in response to a change in the registration for at least one of the plurality of mobile stations.

14. A method as recited in claim 12, wherein:

the second database contains a table associated with the ISP, the table contains records of respective mobile identification numbers (MIN's) of mobile stations that are provisioned for power-on and power-off status transmissions to the ISP, and further comprising the steps of:

5 transmitting a change of status message to the second database;

comparing the MIN contained in the change of status message with the table associated with the ISP;

in response to a match of the MIN in the comparing step, updating the record containing the MIN to reflect the status contained in the change of status message; and

10 providing to the ISP subscriber data indicating the status of the mobile station if the ISP subscriber is on line.

15. A method as recited in claim 14, wherein the data provided in the providing step contains information, for displaying at a monitor screen of the ISP subscriber, an indication that

the mobile station is in an active power state if the message contains active status data for the mobile station.

16. A method as recited in claim 15, wherein the data provided in the providing step contains information, for deletion of the active indication display at the monitor screen of the ISP subscriber, if the message contains inactive status data for the mobile station.

17. A method as recited in claim 12, wherein:

the second database is stored in a processor remote from the location of the HLR and contains a plurality of tables associated with respective ISP's, each of the tables relating subscribers of its respective ISP with mobile identification numbers (MIN's) of mobile stations;

the step of maintaining further comprises setting a flag in the HLR database for each MIN that is listed in the second database; and

the step of formulating comprises identifying a flag in the HLR for the mobile station that has changed status; the method further comprising the step of transmitting the change of status message to the second database.

18. A method as recited in claim 17, wherein:

the change of status message contains the changed power status and MIN of the mobile station in response to which the change of status message has been formulated, and further comprising the steps of:

comparing the MIN contained in the change of status message with the table;

in response to a match of the MIN in the comparing step, determining whether the ISP subscriber related to said MIN in the table is on line with the Internet; and

providing to the ISP subscriber data relating the status of said mobile station if the ISP subscriber is on line.

19. A method as recited in claim 13, wherein:

the second database is stored in a processor remote from the location of the HLR and contains a plurality of tables associated with respective ISP's, each of the tables relating subscribers of its respective ISP with mobile identification numbers (MIN's) of mobile stations;

5 the step of maintaining further comprises setting a flag in the HLR database for each MIN that is listed in the second database; and

the step of formulating comprises identifying a flag in the HLR for the mobile station that has changed registration; the method further comprising the step of transmitting the change of registration message to the second database.

20. A method as recited in claim 19, wherein:

the change of registration message contains the changed base station registration status and MIN of the mobile station in response to which the change of registration message has been formulated, and further comprising the steps of:

5 comparing the MIN contained in the change of registration message with the table;

in response to a match of the MIN in the comparing step, determining whether the ISP subscriber related to said MIN in the table is on line with the Internet; and

providing to the ISP subscriber data relating the base station registration of said mobile station if the ISP subscriber is on line.

21. A wireless communications system comprising:

a plurality of mobile stations;

a plurality of base stations interfaced for wireless communications with the plurality of mobile stations and for receiving power status transmissions from the mobile stations;

5 a mobile switching center connected in a wireless communication network to the base stations, the mobile switching center linked to a home location register for transmission thereto of changes of power status of the mobile stations, the home location comprising service profiles for each mobile station, including power status; and

10 a database remote from the home location register, the remote database associated with an Internet Service Provider and containing records relating subscribers of the Internet Service Provider with respective mobile stations, the remote database connected through a data network with the home location register for receiving therefrom change of power status messages for the respective mobile stations.

22. The system of claim 21, wherein:

the storage device comprises a computer and a database communicating with the computer.

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